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Epidemiological and Clinical Picture of Hospitalized Patients with Complicated *Bartonella bacilliformis* Infection During An Outbreak in the Highland of Peru

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Background: Currently outbreaks of *Bartonella bacilliformis*(Bb); were reported in the Jungle in new endemic areas in Peru; particularly in Jaen, Chachapoyas, Cuzco. In 1982 Eleven cases of complicated Human Bartonellosis(CHB); coming from Huarochiri and Santa Eulalia Valley- Lima were hospitalized in National Hospital Hipolito Unanue(NHHU)- Lima- Peru. Eleven developed fever and hemolytic anemia. Two pregnant woman developed fetal obito. One patient developed acute diarrhea for *Eschericia coli*. After months one patient developed verruca lesion for Bb.

Methods: We studied epidemiological and clinical characteristic of HB hospitalized patients coming from the area of outbreak in the North of Santa Eulalia valley (Parca Alta, Callahuanca, Barbablanca); in April 2005. Blood smear test was realized in patients. In May—June 2005 we surveyed Parca Alta village. Houses were identified and censuses carried out. Persons (100) were questioned on disease status and previous history of infection. Sandflies were captured using CDC tramps in Parca Alta village.

Results: An outbreak of HB was observed in Santa Eulalia Valley; 19 patients ranged from 3yr to 54 yr old which were hospitalized in NHHU for complicated HB. 19 were blood smear positive for Bb with high parasitemia. 19 had fever, 18 were palate and no one had verruca. 16 had moderate hemolytic anemia and in three was severe. One culture was positive for *Stafilococus aureus* associated to Bacteriemia. Old one developed Pulmonar Tuberculosis and another Hemofagocitic syndrome. Lutzomyia verrucarum was captured in Parca Alta village which was the most sandfly found.

Conclusions: Human Bartonellosis is a important issue in Peru, Peruvian patients with HB developed different clinical pictures associated with opportunistic infections (such us bacteriemias and Tuberculosis). High parasitemia had been found in hospitalized patients with severe and moderate hemolytic anemia. In Parca village we found Lutzomyia verrucarum.

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Vacuolating Cytotoxin Activity and Caga Gene of Helicobacter pylori Isolates from Peptic Ulcer and Non-Ulcer Dyspepsia Patients from Thailand

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Background: A significant increase of dyspeptic patients associated with Helicobacter pylori infection in Thailand has been recognized over a past decade; considerable variations of vacuolating cytotoxin activity and cagA gene presence in H. pylori-positive patients with different geographic regions are postulate. We investigated association of phenotypes 1 ulcerogenic (CagA+, VacA+) and 2 nonulcerogenic (CagA+, VacA−) presence with peptic ulcer dyspepsia (PUD) and nonulcer dyspepsia (NUD) Thai patients.

Methods: Seventy-one H. pylori-positive dyspeptic patients with endoscopic findings were included; 38 PUD [21 gastric ulcer (GU), 16 duodenal ulcer (DU) and one with both ulcers] and 33 NUD [18 gastritis, 9 gastroduodenitis, 1 duodenitis and 5 with normal findings]. Their vacuolating cytotoxin activity was titered using concentrated culture supernatants (CCS) inducing vacuolization in Hela cells and subsequently they were specifically amplified by PCR.

Results: The CCS of the 41 (57.7%) out of 71 H. pylori isolates (Vac+) induced vacuolization of ranging titers of 1:2 to 1:64. There was no significant difference in VacA presence and clinical outcomes between the patient groups ($p > 0.05$). The cagA gene presence with both groups (Vac+ vs Vac−) was putatively positive. There was no significant difference in phenotypes 1 and 2 in all H. pylori isolates ($p > 0.05$).

Conclusion: There was association of cagA gene presence with PUD and NUD as strongly predictive of H. pylori infection. Association of vacuolating cytotoxin activity and cagA gene presence in H. pylori-positive patients was independent of clinical outcomes of the infection.

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Prevalence of Community-Acquired Methicillin-Resistant *Staphylococcus aureus* in Skin and Soft Tissue Infections in HIV Positive Patients

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Introduction: Community-acquired methicillin-resistant *Staphylococcus aureus* (CA-MRSA) rates have rapidly increased. The incidence of this infection has been reported 18 fold higher in HIV positive patients compared with general population, but these reports vary greatly between authors. There is very little data of CA-MRSA in HIV positive patients in Argentina.

Objectives: Evaluate the prevalence of skin and soft tissue infections (SSTI) caused by CA-MRSA, its

clinical manifestation, antibiotic susceptibility and treatment.

Methods: A retrospective study was conducted during the period January 2007—Febrary 2008 to detected CA-MRSA isolated from samples of SSTI obtained from HIV positive patients attended at the ambulatory care Infectious Diseases Unit at Fernandez Hospital in Buenos Aires, Argentina. We registered 13 positive samples but 2 were excluded from the analysis because of hospitalization during the previous 6 month. Epidemiological features, clinical manifestation, antibiotic susceptibility, treatment and outcome were evaluated.

Results: $n = 11$, F/M 4/7, median age = 37yrs (r19—49), heterosexual 27%, MSM 27%, IDU 27%. Median CD4 count 258 cell/mm^3 (r10—382), 5 were on HAART. Clinical manifestation: furunculosis 73%, folliculitis 18% and cellulitis 9%. During the previous 6 month to the episode: 6 had received ATB (4 beta-lactams and 2 TMP/SMX). The antibiogram showed: macrolide resistance 54% and clindamycin resistance 18%. No rifampicin, ciprofloxacin or TMP/SMX resistance was detected. The empirical treatment was inadequate in 70%; median of treatment duration 8 days (r7—14). None of the patients required surgical drainage and the outcome was favorable in all of them.

Conclusion: CA-MRSA must be considered a possible etiology of SSTI in this population; especially in patients with furunculosis witch was the most frequent clinical manifestation. We detected 18% of clindamycin resistance and the absence of TMP/SMX, ciprofloxacin or rifampicin resistance. The active surveillance of methicillin associated resistance is important to guide the adequate empirical antibiotic therapy in patients with possible CA-MRSA lesion.

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CPAP Protocol Reduces Intubation and Mortality of Pneumonia Patients in Resource-Limited Settings

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Background: Pneumonia is a leading cause of mortality in the developing world. Many recent studies have suggested that low-cost and minimally invasive interventions are critical in reducing mortality in severely ill infants and children in resource-limited settings. We hypothesize that CPAP, used aggressively, will decrease intubations and improve the mortality of patients diagnosed with severe pneumonia who are admitted to the intensive care unit (ICU) of Angkor Hospital for Children (AHC) in Cambodia.

Methods: AHC's ICU patient log book was reviewed for the year 2005 and all patients were placed in a database according to diagnosis, intubation, and mortality. The available evidence was reviewed and an evidence-based protocol for CPAP was developed by the local Cambodian staff. The protocol was implemented in January 2006 and data was collected prospectively on diagnosis, intubation, CPAP use, and mortality for the year 2006.

Results: In 2005 and 2006, 101 and 151 patients were admitted respectively with a primary and sole diagnosis of pneumonia. In 2006 compared to 2005, intubations among these patients decreased by 47% and mortality decreased by 77%.

Conclusion: Early intervention with a minimally invasive, low-cost, evidence based CPAP protocol reduces intubation and improves mortality in patients with pneumonia presenting to a children's hospital in a resource-limited setting.

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HIV/AIDS - Immunology, Virology and Diagnostics (Poster Presentation)

41.001

HIV-1 Induces Apoptosis in Primary Osteoblasts and HOBIT Cells through TNF-alfa Activation

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Background of the study: Several HIV-1 infected patients show bone loss and osteopenia/osteoporosis during the course of disease. The mechanisms underlying this degenerative process are largely unsettled and the relationship between HIV-1 and osteoblasts/osteoclasts cross-talk regulation has not been yet investigated. The aim of our study is focused on analysis of biological effects of HIV-1 on osteoblasts and osteoblast-like HOBIT cells to determine the mechanisms involved in the bone loss in the course of HIV-1 infection.

Methods used: Human hipbone osteoblasts of patients were obtained from commercial sources or isolated from HIV-1 negative patients enrolled after giving their informed consent. HIV-1 DNA was determined by PCR whereas RT-PCR was employed to determine viral RNA, cell membrane markers and TNF-alfa mRNA.

Results: proviral HIV-1 PCR analysis showed that primary osteoblasts and HOBIT osteoblast-like cell line are not susceptible to infection. On the other hand, HIV-1, heat-inactivated HIV-1 and HIV-1 gp120 treatment induced a significant apoptotic process activation at 72—96 hours that is tackled by soluble CD4 treatment suggesting an interaction between gp120 and cell membrane proteins.

Although the CD4 and CXR4 mRNA was costantly detectable in both the cell models, CD4 and CXR4 proteins are expressed at very low density in a low percentage of cells (4—6% and 4% respectively) whereas CCR5 is significantly more expressed. HIV-1, heat-inactivated HIV-1 and HIV-1 gp120 treatment induced both the TNF-alfa mRNA and supernatant protein increase at 24—96 hours. Moreover, anti-TNF-alfa pretratment tackles the apoptosis induction suggesting a direct role of